

Adaptation & Use of OpenGIS Technologies for Planetary Data



from Earth to the Moon and Mars!

<http://webgis.wr.usgs.gov/ogc/>

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Summary of Project

- Adapt the JPL WMS “*onEarth*” server to serve Mars and Lunar data
 - Prepare and load selected Mars and Lunar data sets
 - Standardize the planetary coordinate and projection systems with the OGC
- Develop new WCS servers for Mars and Lunar data
- Test both servers with PDS Imaging Node @ USGS
- Promote use of these servers by selected client applications and the Planetary Data System

Plan for Year One

● By June

- Install selected Mars data sets on the “*onEarth*” server
- Develop additional server functionality (colorize, bandmix, transparency, stretches) and incorporate into “*onEarth*”
- Convene planetary working group at OGC June meeting

● By September

- Develop new server “*onMars*”
- Add Color MDIM data
- Add shading, hillshade, more stretches

Accomplishments for Year One

● Tasks completed to date (July)

- MDIM (version 2.1) and MOLA are loaded onto prototype “onMars” WMS server
- Clementine and Lunar DEM are loaded onto prototype “onMoon” WMS server
- Charter for Planetary Working group submitted to OGC
- Planetary coordinate system standard in progress for proposal to OGC in September
- NASA’s JMARS (THEMIS planning tool) and USGS’s PIGWAD now interoperate with “onMars” prototype server via OGC protocols
 - This is ahead of schedule due to expressed interest by JMARS developers; JMARS will also be the orbital planning tool for HiRISE

● Activities in progress for completion by September

- Release WMS server “onMars” after testing
- Add Color MDIM
- Add server functionality (colorize, band mix, transparency, stretches)

Plan for Year Two

● By December

- Add MSS Atlas to “onMars”
- Work on lunar projection system for a lunar server “onMoon”
- Add lunar data sets (Lunar DEM, Clementine Mosaic) -- done early
- Post a Mars and Moon coordinate system encoding document with the OGC

● By March

- Modify PIGWAD mapping demo with combined data from JPL and USGS
- Enhance WMS server with SLD extensions

● By June

- Document and post SLD extensions used by the planetary WMS server with the OGC

● By September

- Add Multi-spectral Clementine
- Add (Small) THEMIS

Publications

- E. Dobinson, D. Curkendall, L. Plesea, T. Hare, *Adaptation & Use of OpenGIS Web Technologies for Multi-Disciplinary Access to Planetary Data*, to be presented at PV-2005 - Ensuring Long-Term Preservation and Adding Value to Scientific and Technical Data, Edinburgh, Scotland, November 2005